

BASIC CATEGORY	PHYSICAL FEATURE	METHOD AND/OR MEDIUM	MERITS	DEMERITS (DRAWBACKS OF THE RELATED ART)
PROXIMITY COMMUNICATION	CONTACT	DIRECT CONTACT BY CONDUCTOR	SIMPLE, ECONOMICAL	CONTACT, SHORT IN SERVICE LIFE LARGE LIMITATION OF COMMUNICATION RANGE
		PHYSICAL OSCILLATION	SIMPLE, ECONOMICAL	CONTACT, SHORT IN SERVICE LIFE LARGE LIMITATION OF COMMUNICATION RANGE
NONCONTACT		ELECTROMAGNETIC WAVE (RADIO)	SMALL LIMITATION OF COMMUNICATION RANGE COMMUNICATION AT HIGH SPEED, POSSIBLE	LARGE INTERFERENCE WITH ELECTRONIC CIRCUIT LOW SECURITY
		SHORT-RANGE SPATIAL TRANSMISSION OF LIGHT	SMALL INTERFERENCE WITH ELECTRIC CIRCUIT COMMUNICATION AT ULTRA-HIGH SPEED, POSSIBLE HIGH SECURITY	LARGE LIMITATION OF COMMUNICATION RANGE
		AIR VIBRATION (SOUND)	SIMPLE, ECONOMICAL SMALL INTERFERENCE WITH ELECTRIC CIRCUIT	COMMUNICATION AT HIGH SPEED, NOT POSSIBLE

FIG. 1 (Prior Art)

501

BASIC CATEGORY	PHYSICAL FEATURE	METHOD AND/OR MEDIUM	MERITS	DEMERITS (DRAWBACKS OF THE RELATED ART)		
				HIGH-SPEED COMMUNICATION DEPENDS UPON COMMUNICATION DISTANCE	INTERFERENCE WITH ELECTRIC CIRCUIT	
TELECOMMUNICATION	CONTACT	CONDUCTOR OR CABLE	SIMPLE, ECONOMICAL, COMMON			
		OPTICAL FIBER	SMALL INTERFERENCE WITH ELECTRIC CIRCUIT	RELATIVELY EXPENSIVE		
			COMMUNICATION AT ULTRA-HIGH SPEED, POSSIBLE	ALIGNMENT OF COUPLINGS, DIFFICULT		
	NONCONTACT	ELECTROMAGNETIC WAVE (RADIO)	SMALL LIMITATION OF COMMUNICATION RANGE	LARGE INTERFERENCE WITH ELECTRONIC CIRCUIT		
			SIMPLE, ECONOMICAL, COMMON	LOW SECURITY		
		SPATIAL TRANSMISSION OF LIGHT	SMALL INTERFERENCE WITH ELECTROMAGNETIC WAVE HIGH SECURITY	LARGE LIMITATION OF COMMUNICATION RANGE NOISES FROM SURROUNDING EQUIPMENT		
		AIR VIBRATION (SOUND)	SIMPLE, ECONOMICAL SMALL INTERFERENCE WITH ELECTRIC CIRCUIT	COMMUNICATION RANGE, SHORT COMMUNICATION AT HIGH SPEED, NOT POSSIBLE		

FIG.2(Prior Art)

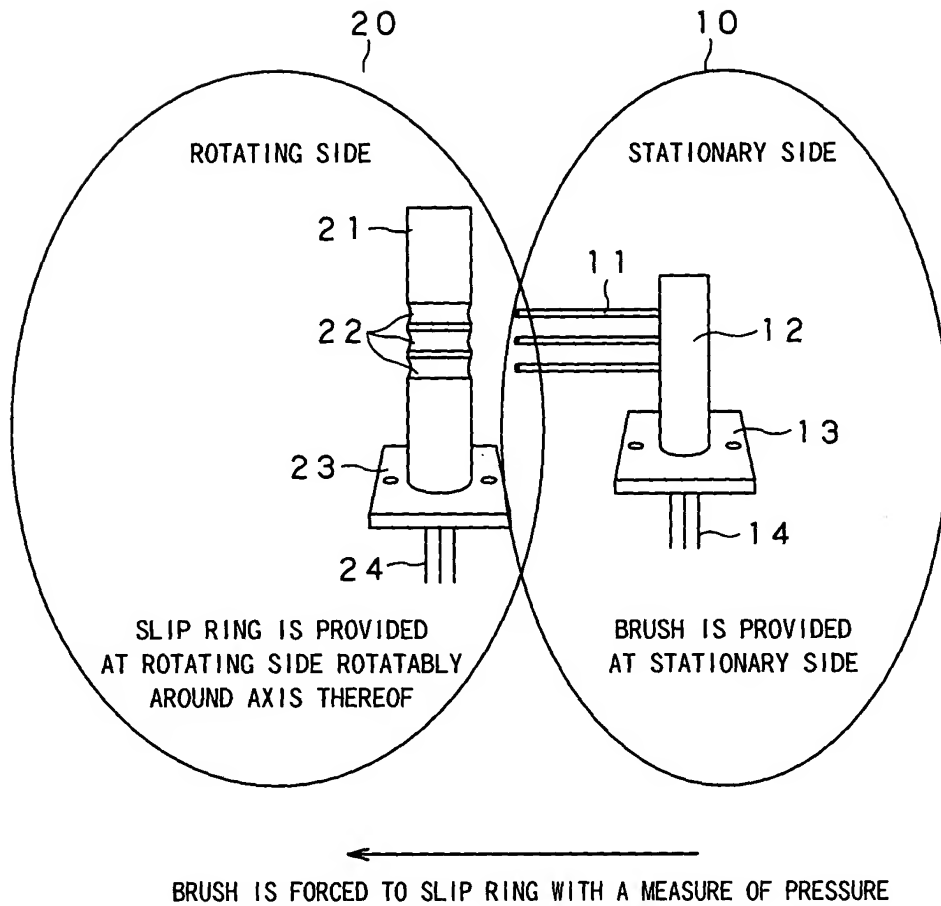


FIG.3(Prior Art)

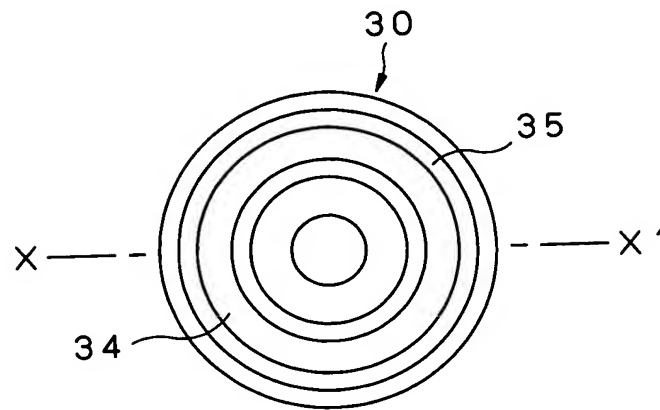


FIG. 4A(Prior Art)

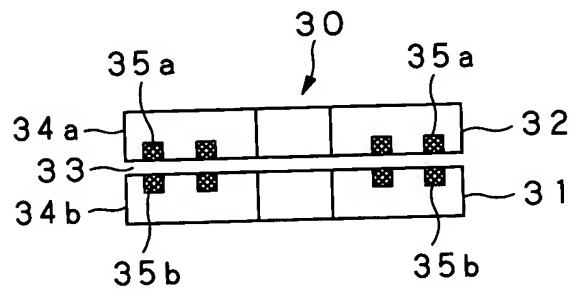


FIG. 4B(Prior Art)

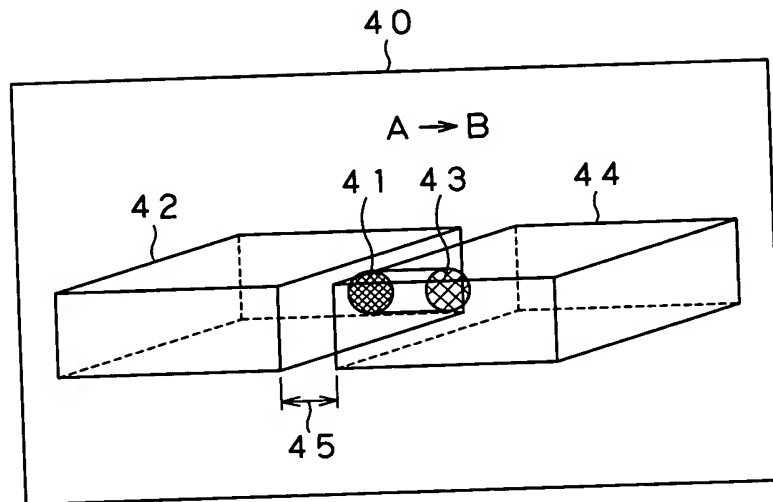


FIG. 5

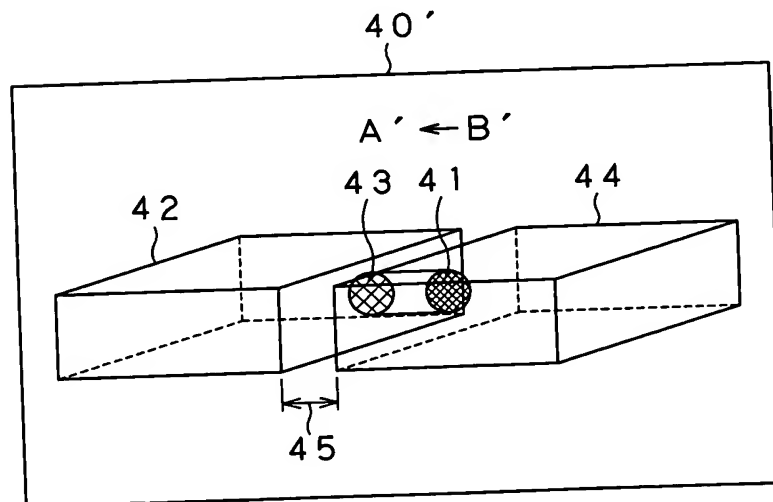


FIG. 6

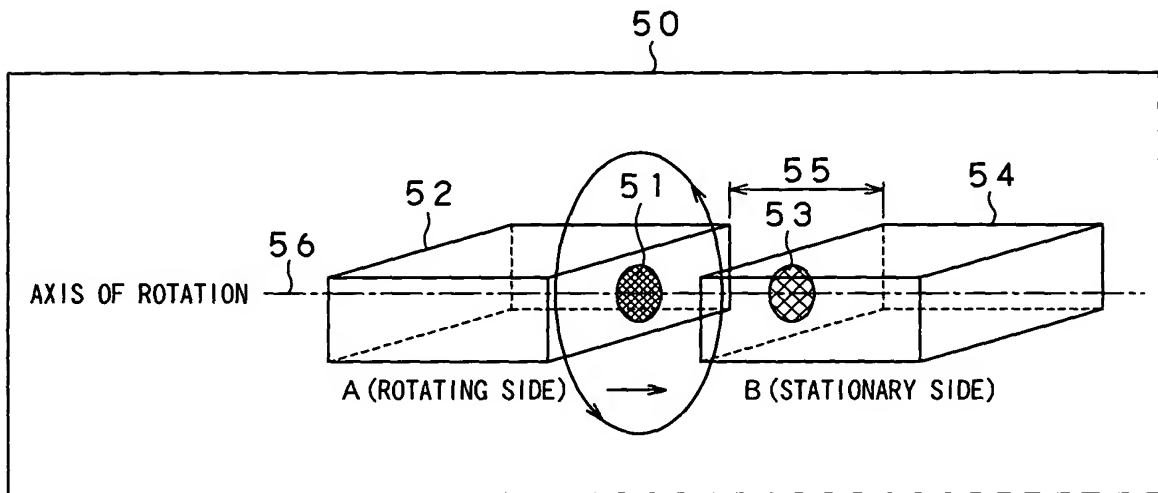


FIG. 7

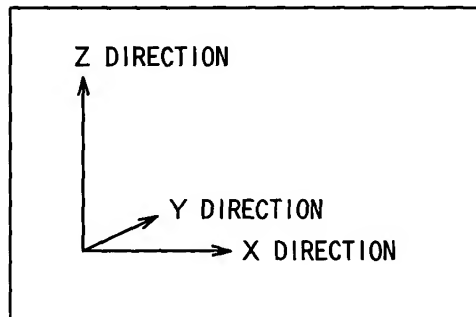


FIG. 8

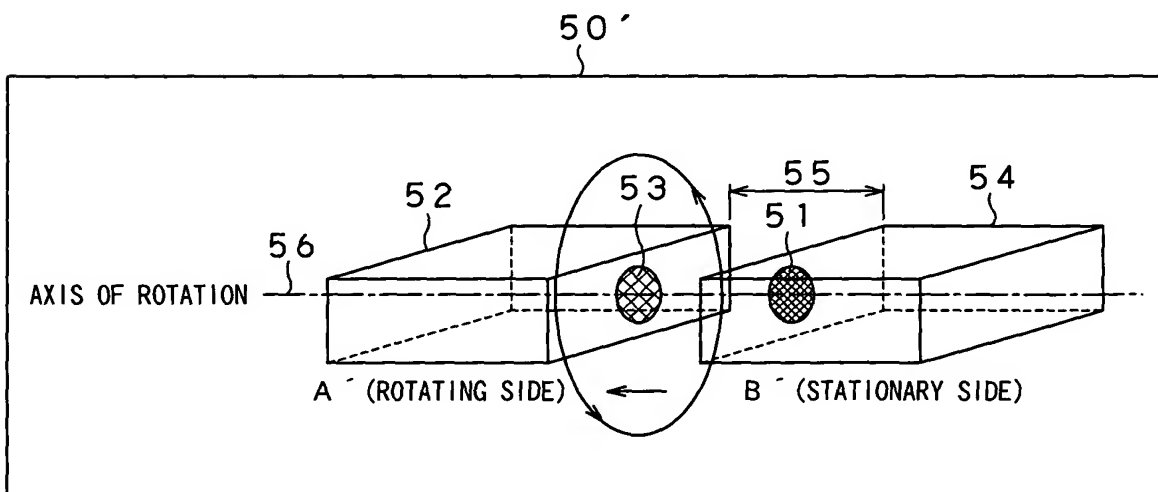


FIG. 9

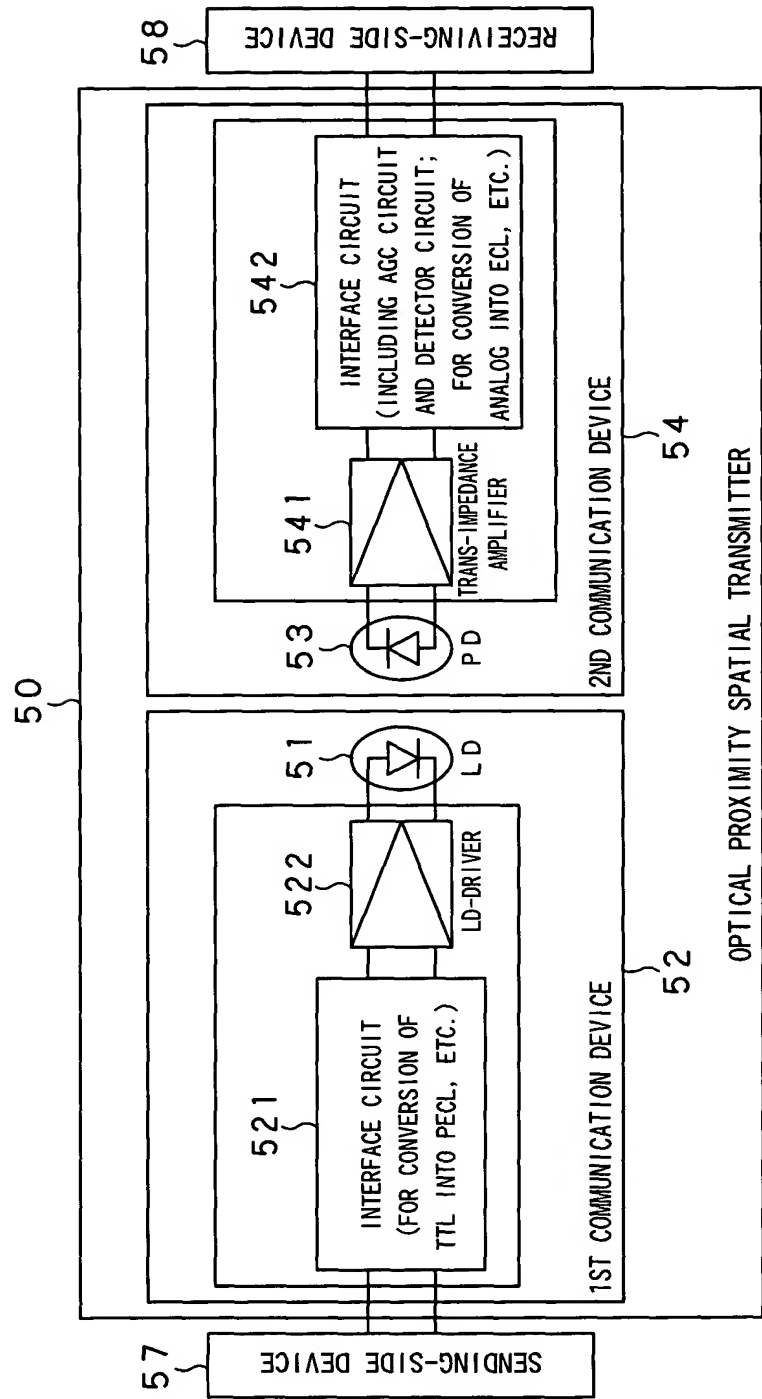
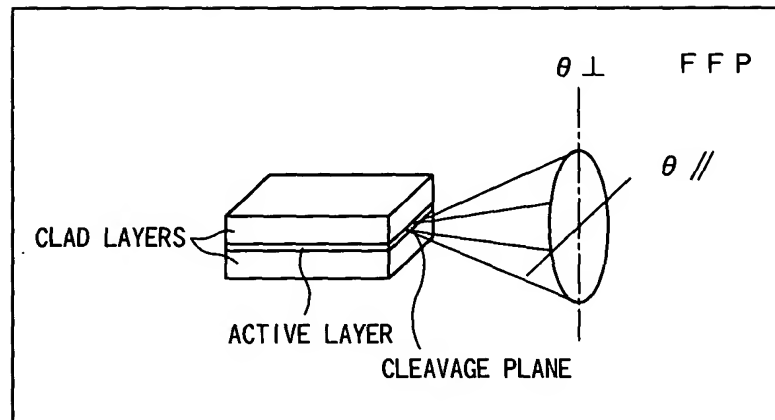
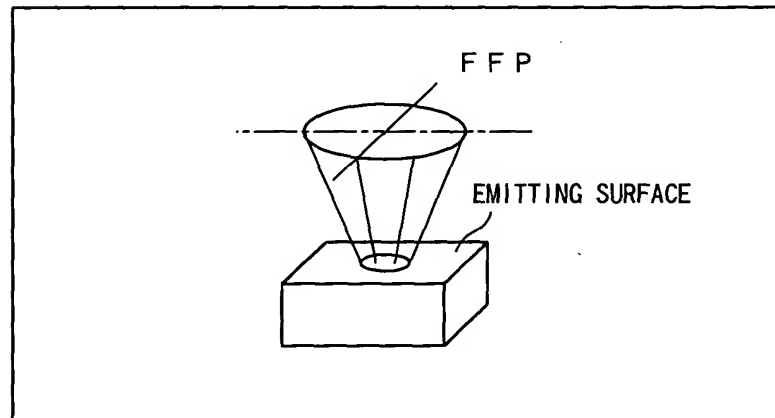


FIG. 10



FFP : ELLIPTIC (GENERALLY, $\theta // \cong 10^\circ$, $\theta \perp \cong 30^\circ$)

FIG. 11 A



FFP : CIRCULAR (GENERALLY, $\theta \cong 10^\circ$)

FIG. 11 B

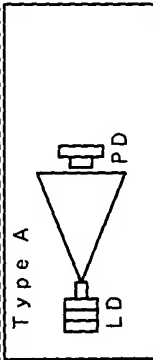
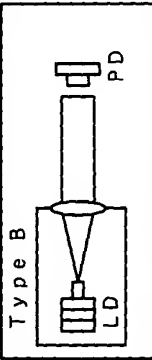
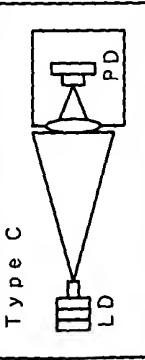
	EFFICIENCY	SPATIAL TRANSMISSION DISTANCE	X-AXIAL PHOTODETECTION WIDTH	Y- AND Z-AXIAL PHOTODETECTION WIDTH	APTITUDE	ECONOMICAL EFFICIENCY
<div>Type A: LD AND PD ARE DIRECTLY OPPOSITE TO EACH OTHER (IMPRACTICAL)</div> <div></div>	-	-	-	-	X	-
<div>Type B: LD WITH LENS IS OPPOSITE TO PD</div> <div></div>	△	○	○	△	FOR SYSTEM IN WHICH OSCILLATION IN DIRECTION OF OFF-AXIS DEVIATION IS SMALL	○
<div>Type C: LD IS OPPOSITE TO PD WITH LENS</div> <div></div>	△	△	△	○	FOR SYSTEM IN WHICH OSCILLATION IN DIRECTION OF OFF-AXIS DEVIATION IS LARGE	○

FIG.12

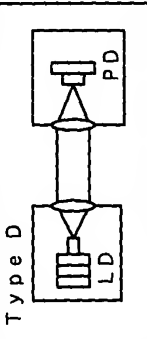
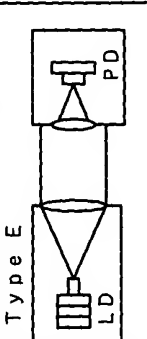
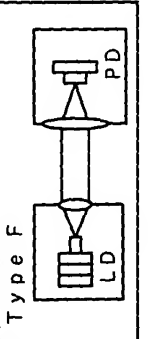
	EFFICIENCY	SPATIAL TRANSMISSION DISTANCE	X-AXIAL PHOTODETECTION WIDTH	Y- AND Z-AXIAL PHOTODETECTION WIDTH	APTITUDE	ECONOMICAL EFFICIENCY
<p>TYPE D: LD WITH LENS IS OPPOSITE TO PD WITH LENS</p> 	○	○	○	△	FOR SYSTEM IN WHICH SPATIAL TRANSMISSION DISTANCE IS LONG	△
<p>TYPE E: LD WITH LENS IS OPPOSITE TO PD WITH LENS (SPOT DIAMETER AT LD IS LARGER THAN DIAMETER OF LENS AT PD)</p> 	△	○	○	○	FOR SYSTEM IN WHICH SPATIAL TRANSMISSION DISTANCE IS LONG AND ALSO OSCILLATION IN DIRECTION OF OFF-AXIS DEVIATION IS LARGE	△
<p>TYPE F: LD WITH LENS IS OPPOSITE TO PD WITH LENS (SPOT DIAMETER AT LD IS SMALLER THAN DIAMETER OF LENS AT PD)</p> 	○	○	○	○	FOR SYSTEM IN WHICH SPATIAL TRANSMISSION DISTANCE IS LONG AND ALSO OSCILLATION IN DIRECTION OF OFF-AXIS DEVIATION IS LARGE	△

FIG.13

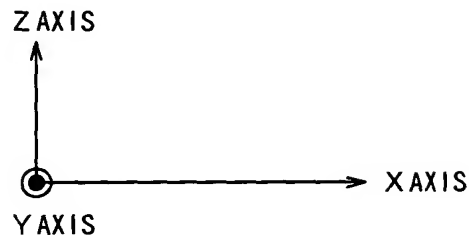
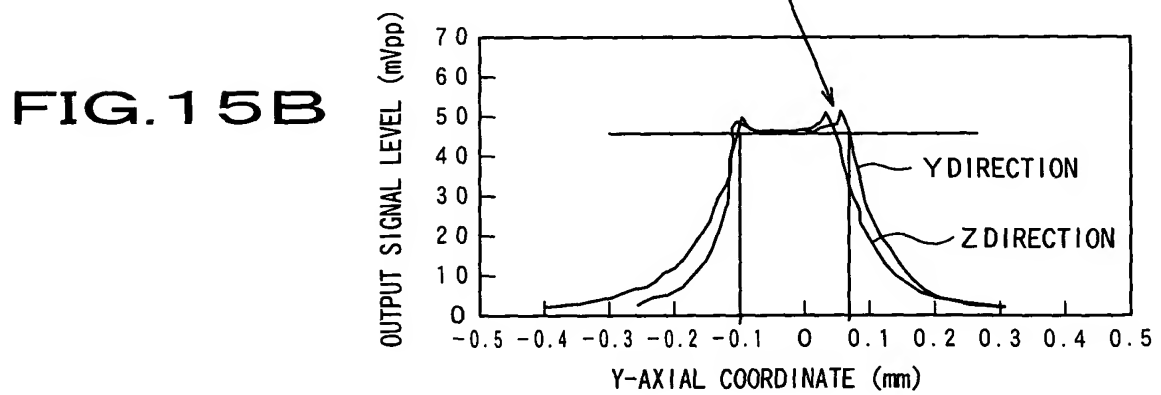
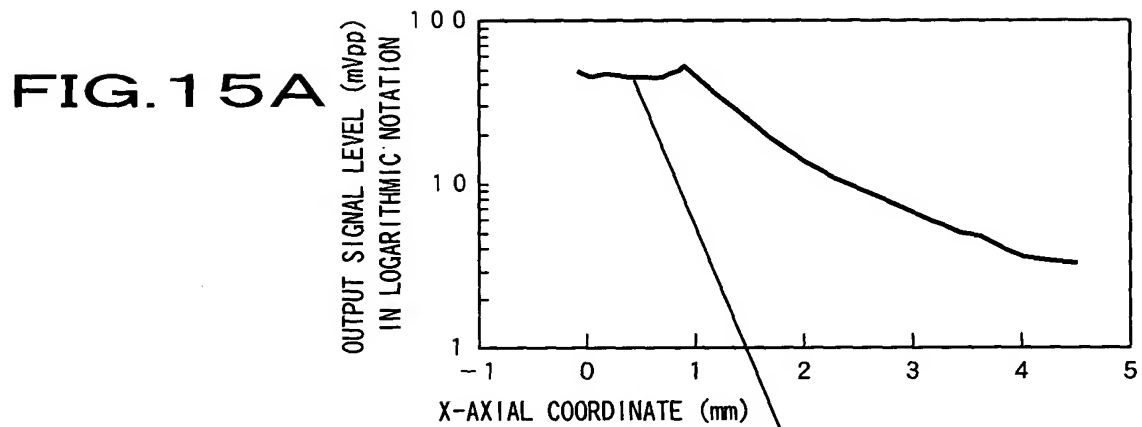


FIG. 14



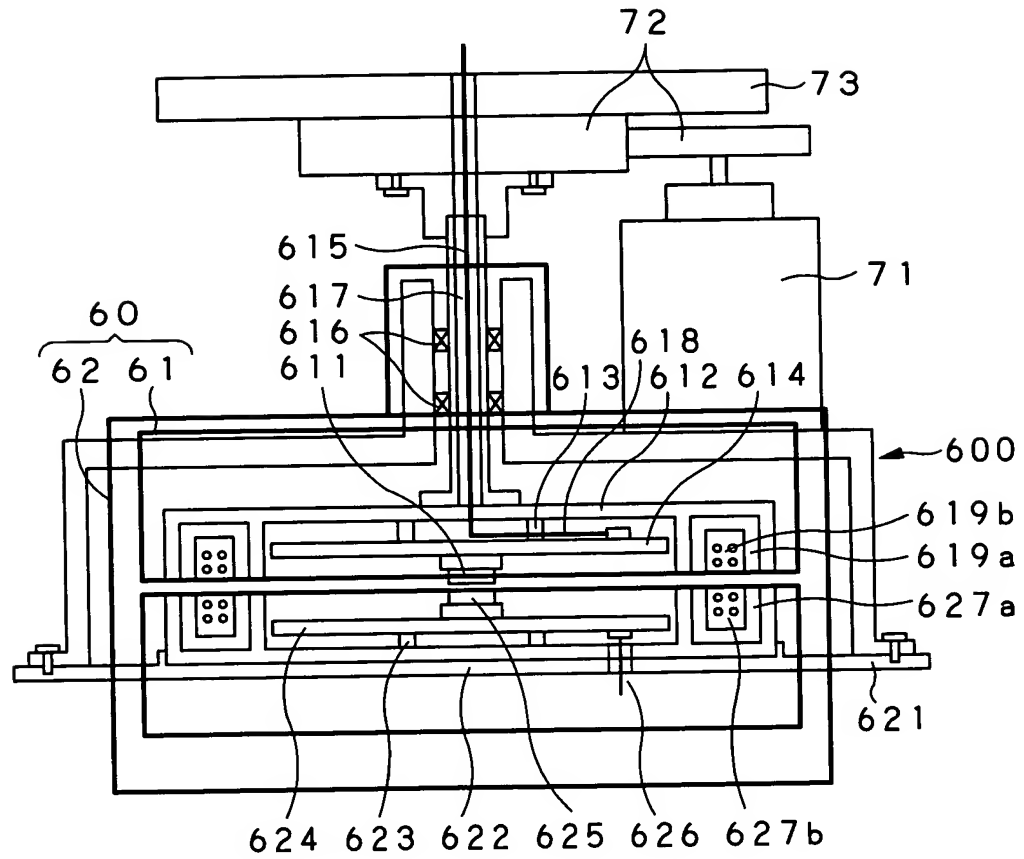


FIG. 16

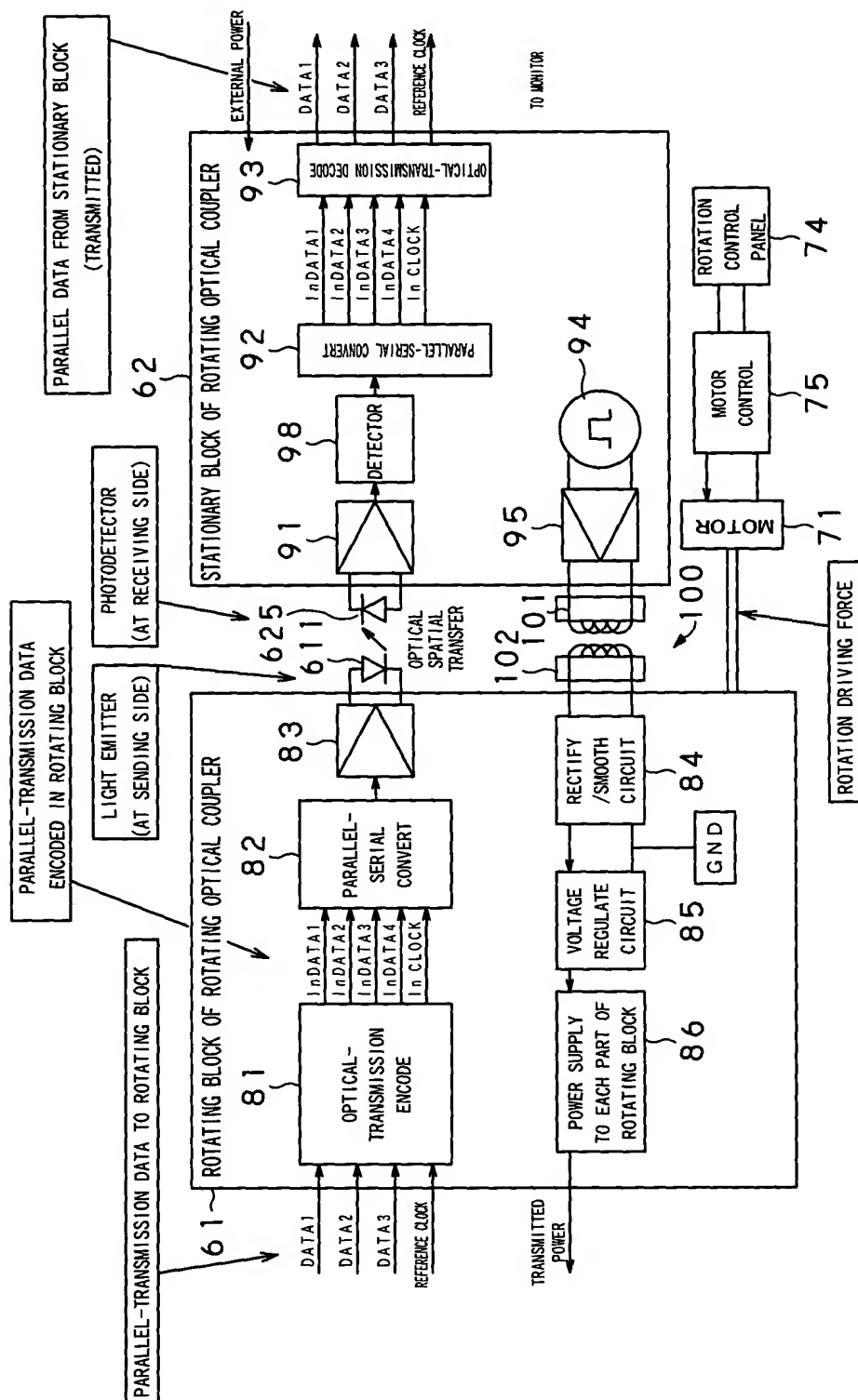


FIG.17

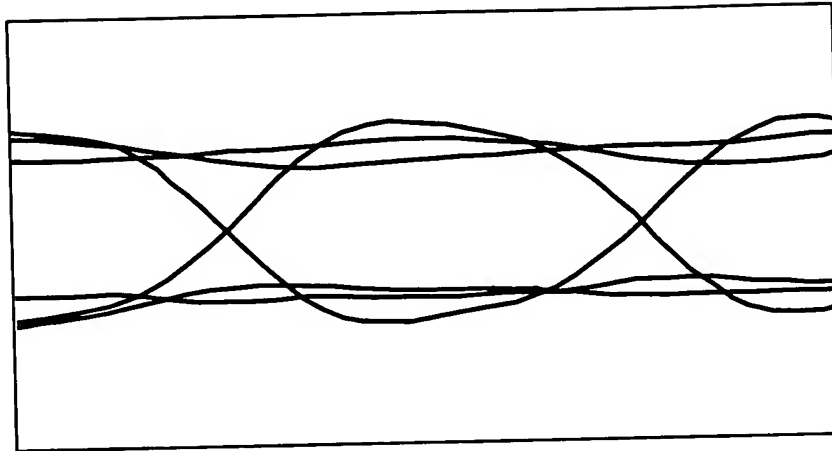


FIG. 18

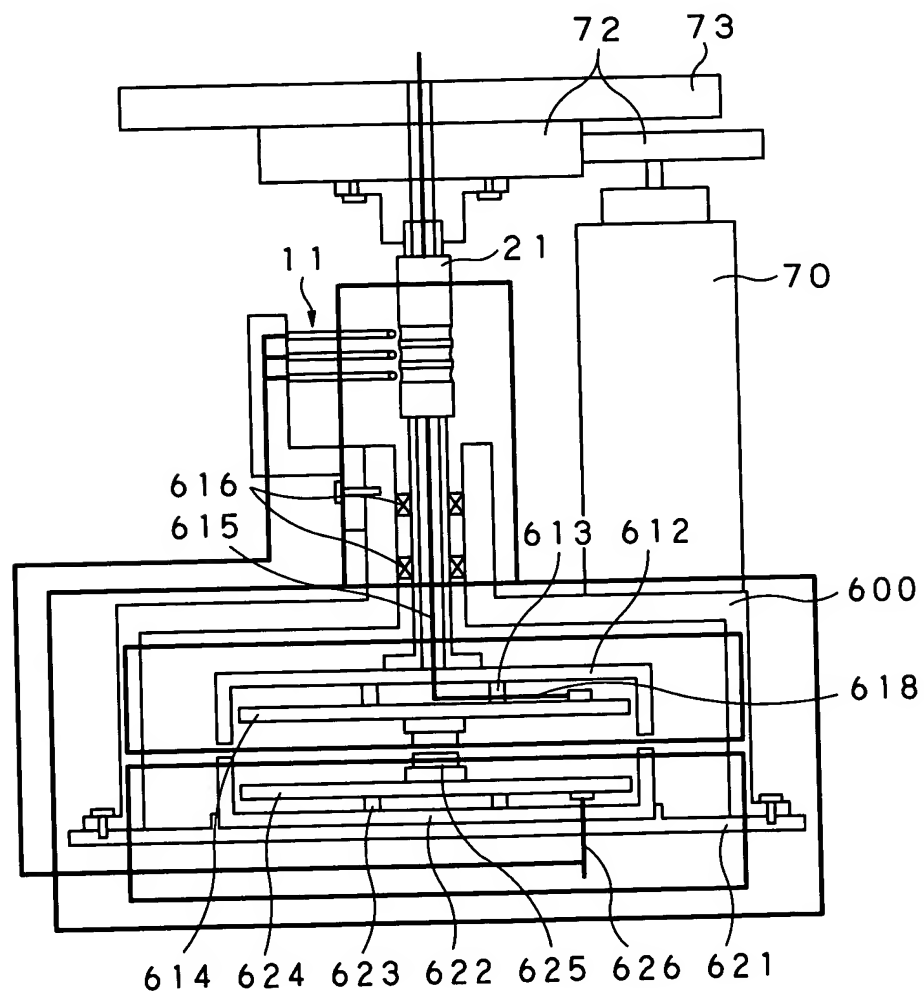


FIG. 19

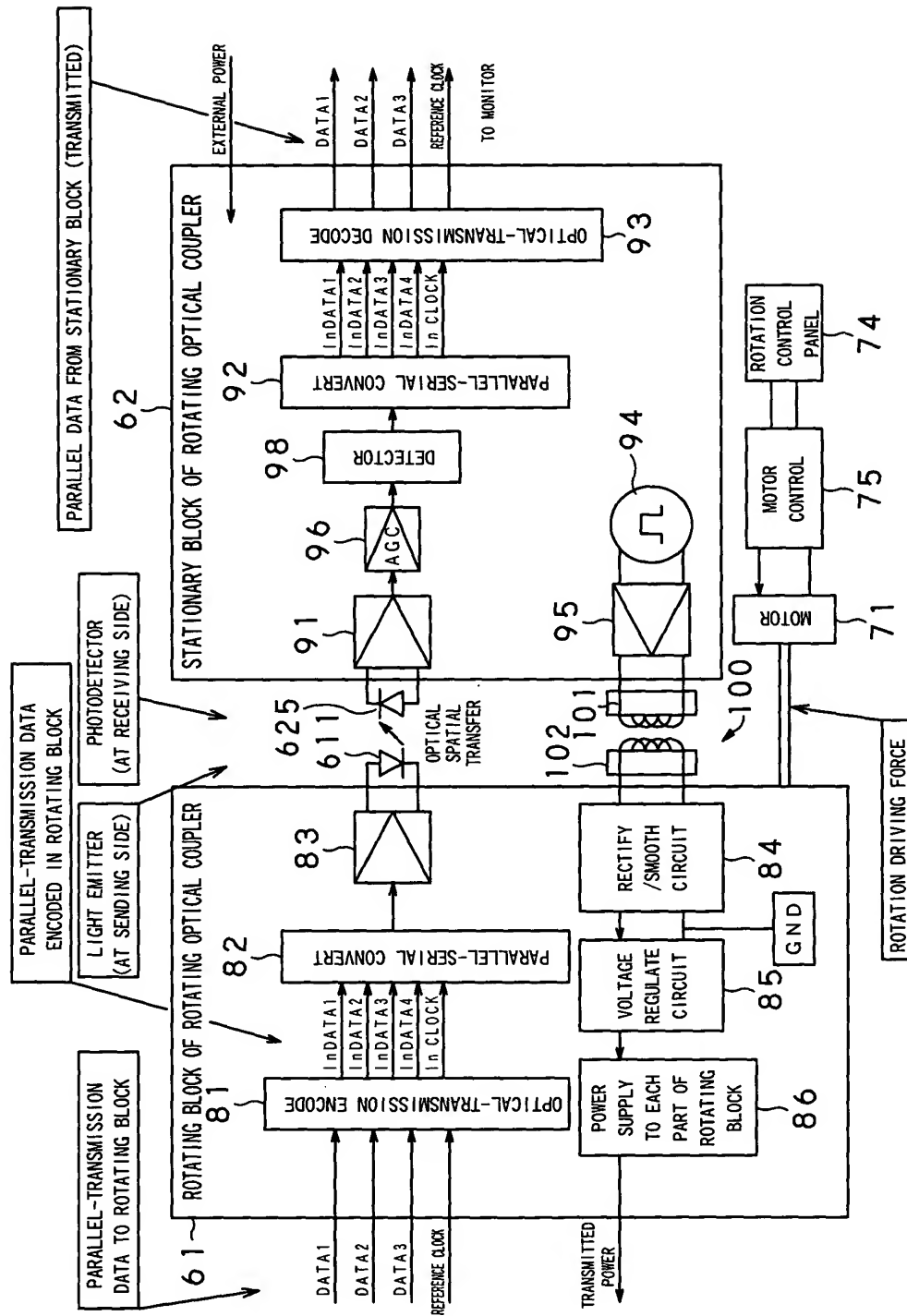


FIG. 20

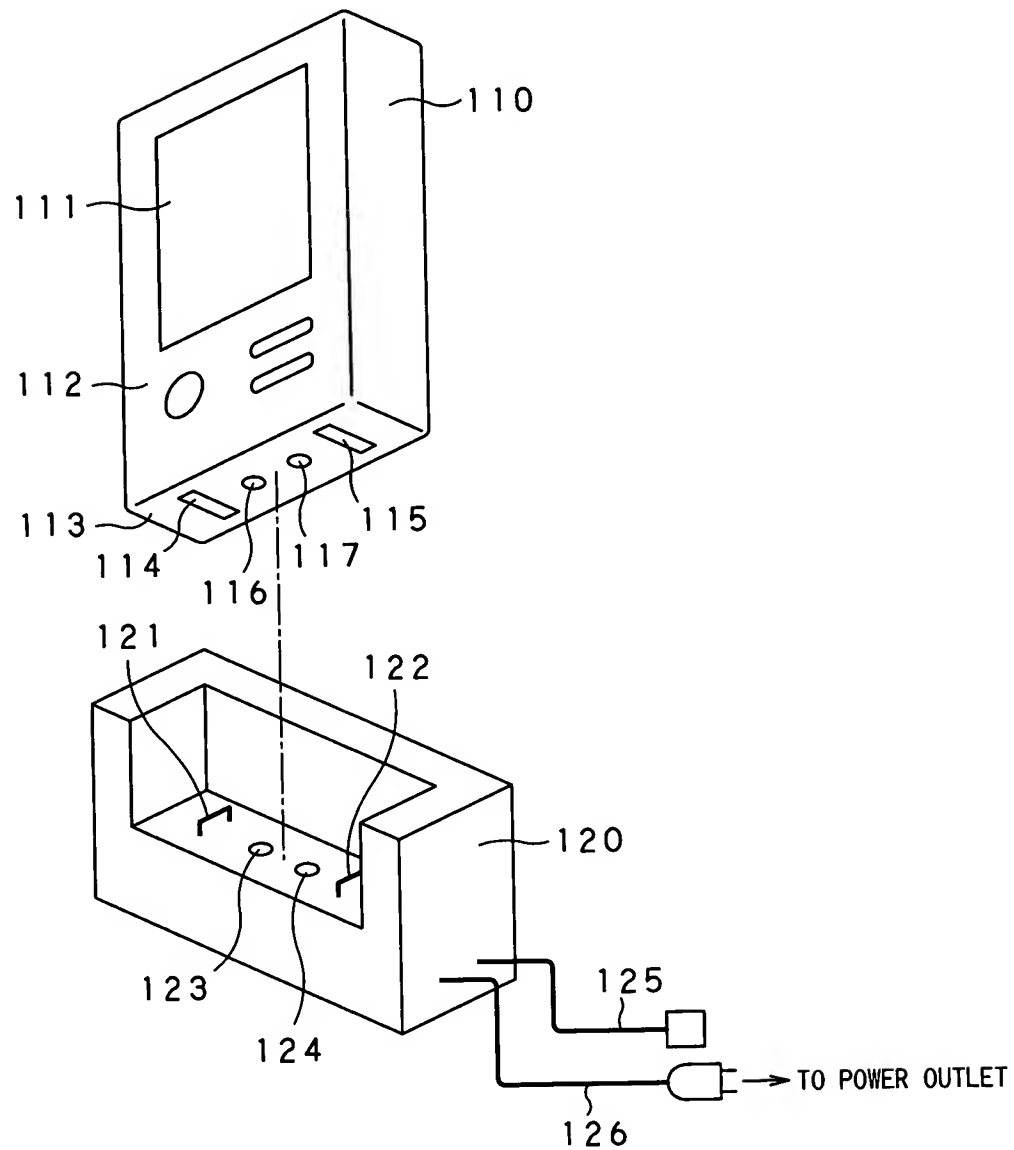


FIG. 21

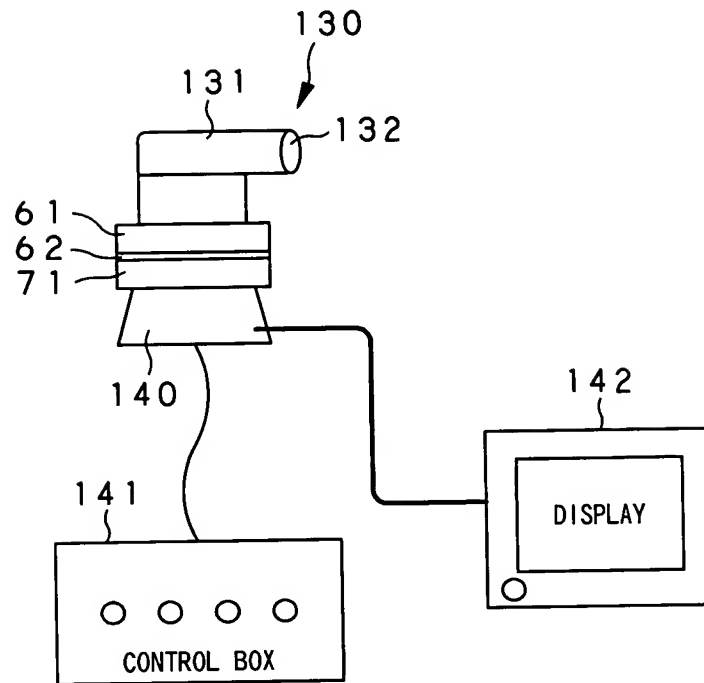


FIG.22

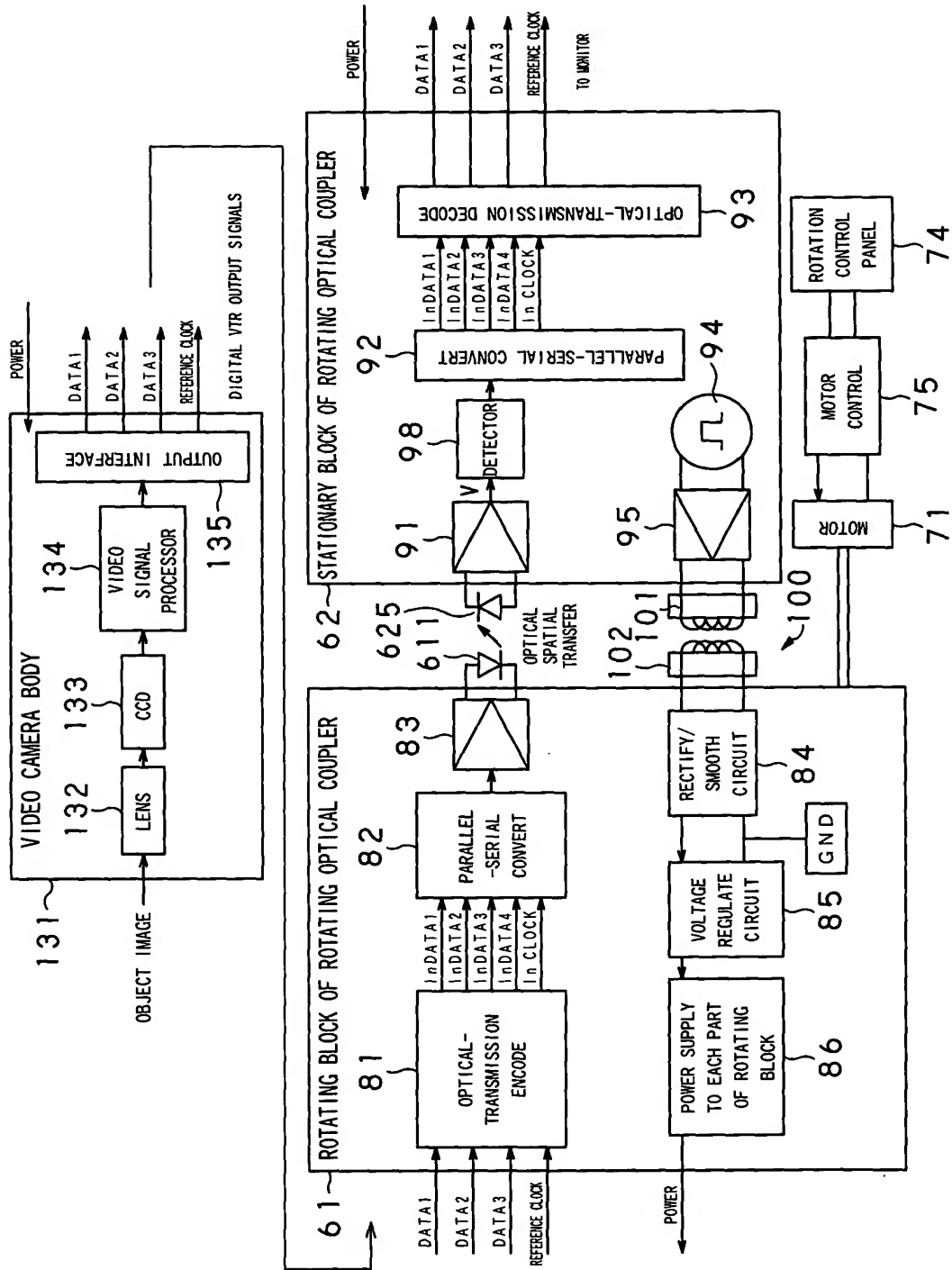


FIG.23

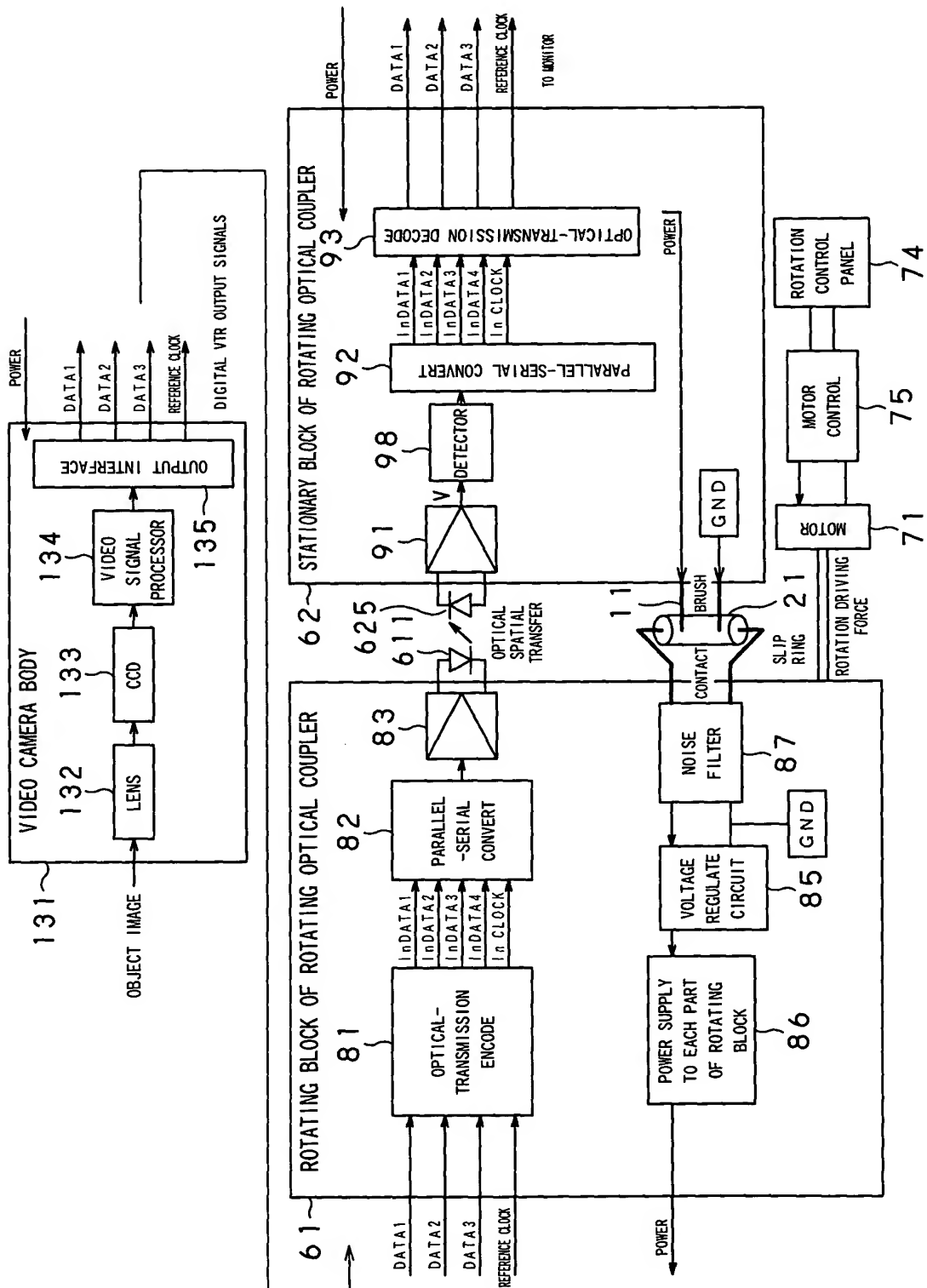


FIG. 24

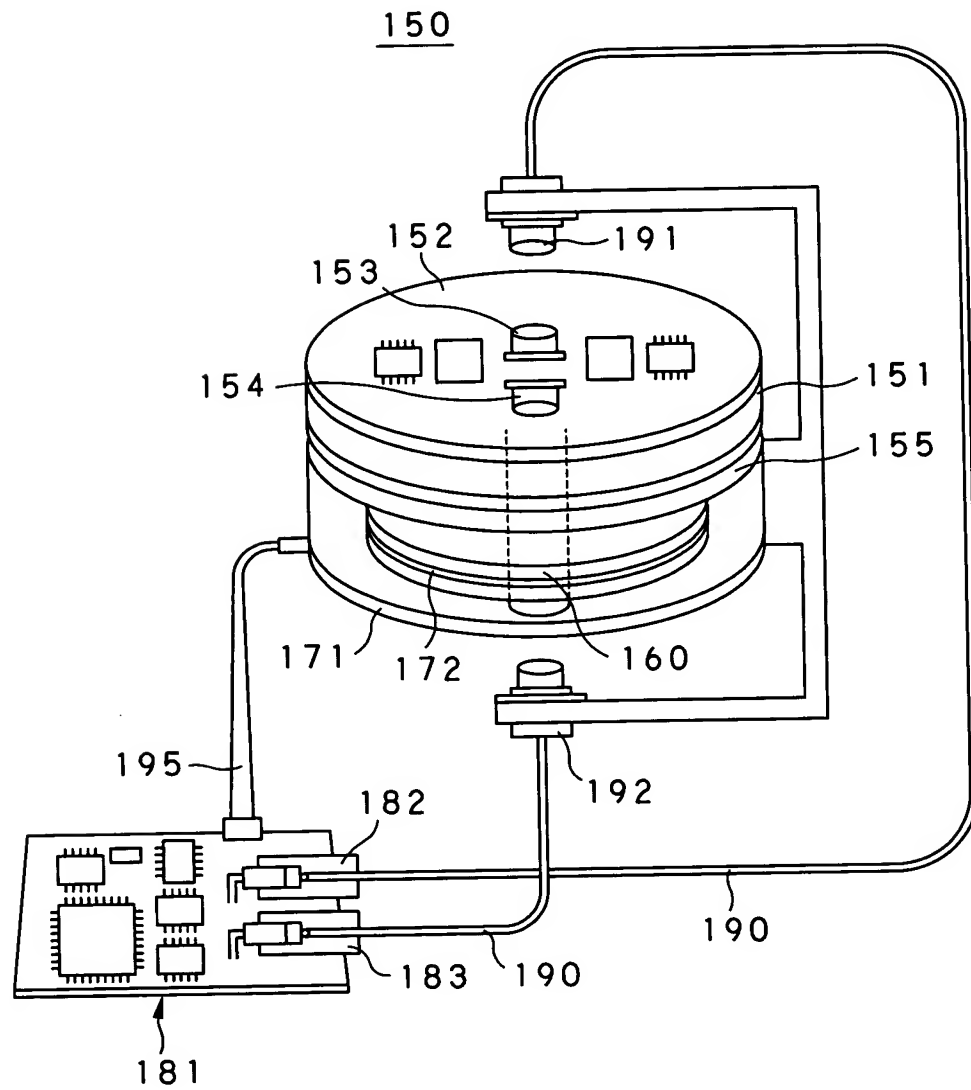


FIG. 25

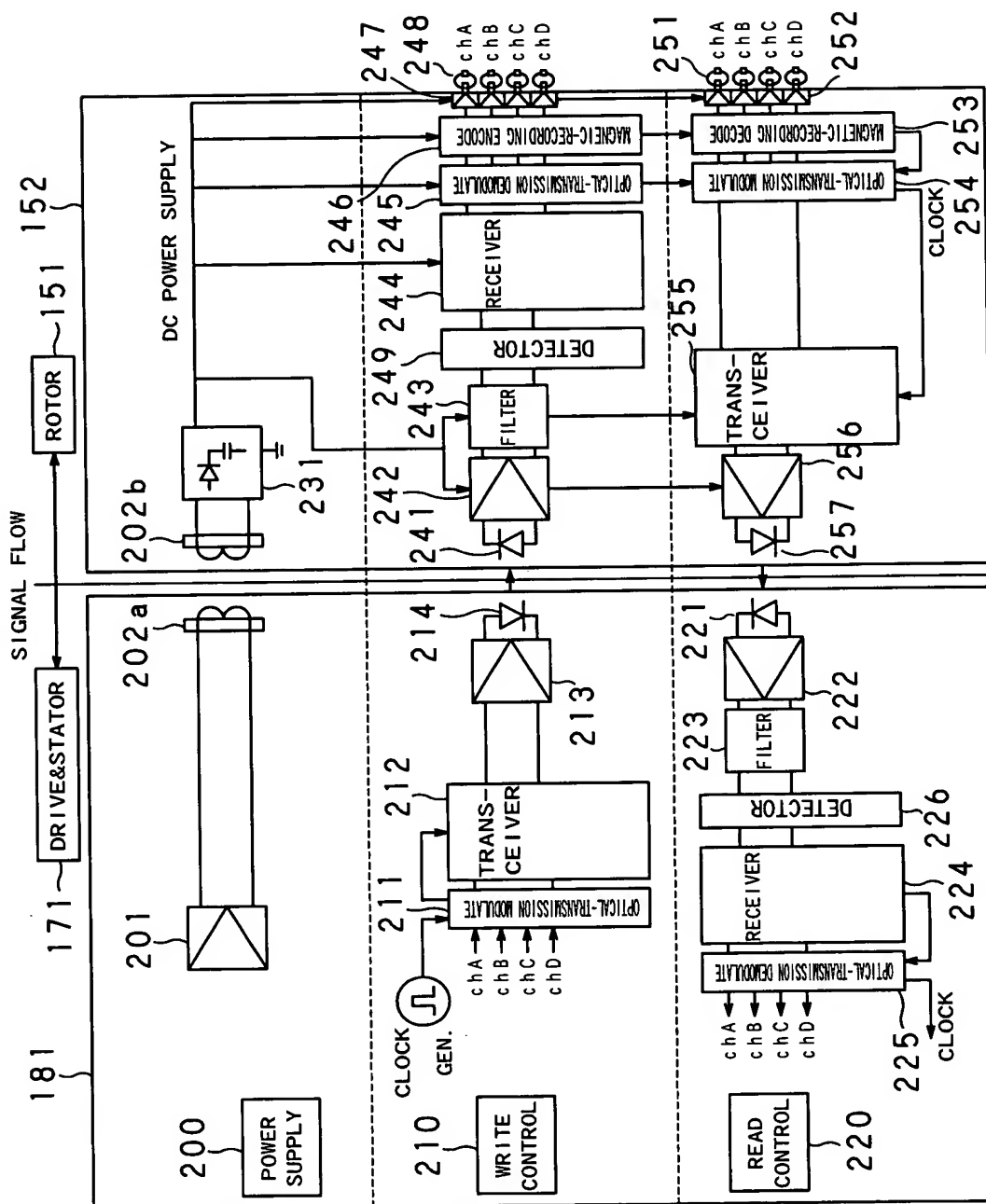


FIG. 26

FIG.27A

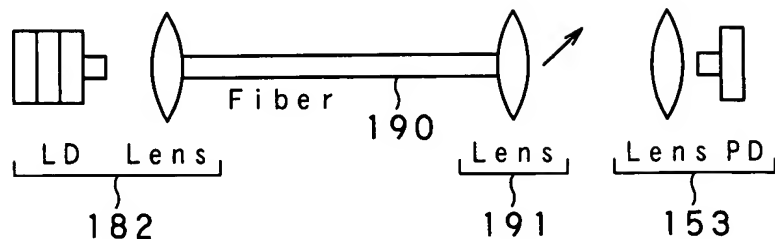


FIG.27B

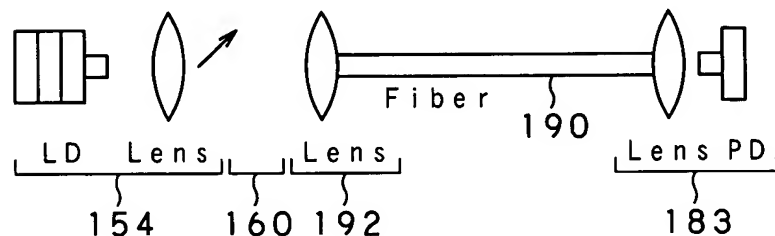


FIG.28A

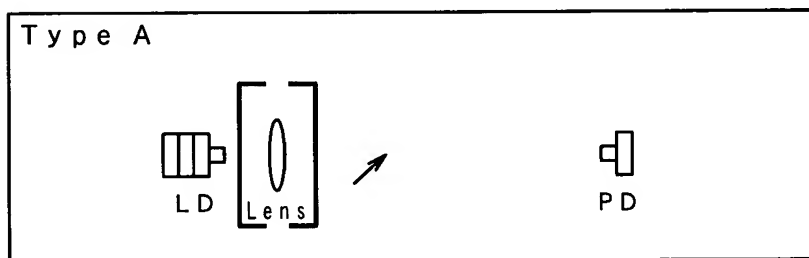


FIG.28B

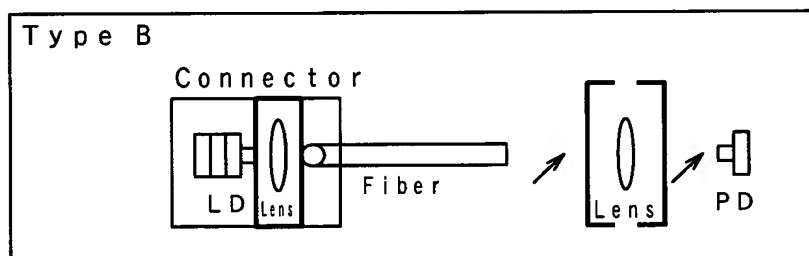


FIG.28C

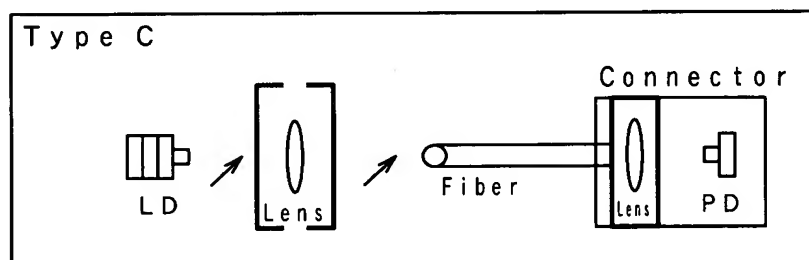


FIG.28D

